

Neil

loop

Work Order ID 96471

January-28-13 12:41:15 PM

96471

Page 1

Item ID: D3183-045 Accept *N900040100* Setup Start *NS1*
Revision ID: Stop *NS2*
Item Name: Bearing Assembly
Start Date: 1/25/13 Start Qty: 20.00 *20* Cust Item ID:
Required Date: 2/11/13 Req'd Qty: 20.00 *20* Customer:
100

Reference:

Approvals: Process Plan: MLJ Date: 13-01-29 Tooling: _____ Date: _____ Run *NR1*
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

NCR: Yes / No

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order: _____			DISPOSITION		AGAINST DEPARTMENT/PROCESS					
Part No. _____			Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/>	Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/>	Water Jet <input type="checkbox"/> Prod. Eng. Coor. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/>	Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/>			
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector	
Doc/Data										
Equip/Tooling										
Operator										
Material										
Setup										
Other										
Process										
Supplier										
Training										
Unapproved										
FAULT CATEGORY										
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped. <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube				General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions						
				<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Other						
				<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled						

Work Order ID 96471

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96471

Page 2

Item ID: D3183-045

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Bearing Assembly

Stop

NS2

Start Date: 1/25/13 Start Qty: 20.00

20

Cust Item ID:

Required Date: 2/11/13 Req'd Qty: 20.00

20

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

130

130

Small Fab

0.00

100X

13/03/08

Small Fab

Memo

0.00

Small Fab

Press D3183-5 Bearing into D3183-9 Cap as per Dwg D3183.

140

140

QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

AS
2/8
13.4.01

100
Count

150

150

Packaging

Packaging

Identify as per dwg & Stock Location:

ST 235 B

0.00

Memo

0.00

100X

SP
13-74-01

NCR: Yes / No

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION		AGAINST DEPARTMENT/PROCESS							
				Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/>	Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/>	Water Jet <input type="checkbox"/> Prod. Eng. Coor. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/>	Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/>					
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance		Initial Chief Eng	Action Description		Sign & Date	Verification	QC Inspector		
Doc/Data													
Equip/Tooling													
Operator													
Material													
Setup													
Other													
Process													
Supplier													
Training													
Unapproved													
FAULT CATEGORY													
Landing Gear Bending Centre Not Concentric to O/S Cracks Crushed/Crimped Cuffs Heat Treat Inspection Strip in Tube Ripples in Bend Torque Waves in Extrusion Turning Sequence Wave/Twist in Tube				General Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio <input type="checkbox"/>		Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions <input type="checkbox"/>						Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/>	Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/>

Work Order ID 96471***96471***

Page 3

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Item ID:	D3183-045		Accept	*N900040100*	Setup	Start	*NS1*
Revision ID:							
Item Name:	Bearing Assembly					Stop	*NS2*
Start Date:	1/25/13	Start Qty:	20.00	*20*	Cust Item ID:		
Required Date:	2/11/13	Req'd Qty:	20.00	*20*	Customer:		
Reference:							
Approvals:	Process Plan:	Date:	Tooling:	Date:	Run	Start	*NR1*
	QC:	Date:	SPC (Y/N):	Date:	Stop		*NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160 *160* QC	QC21- Final Inspection - Work Order Release Memos	0.00							13/4/3 80
Quality Control									

PLB-043

NCR: Yes / No

DQA: Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION		AGAINST DEPARTMENT/PROCESS										
				Rework Scrap Use-as-is Work Order Update	Skid-tube Machining Thermoforming Large Fab	Crosstube Small Fab Finishing Composite	Water Jet Prod. Eng. Coor. Rec/Store/Packaging Supplier	Engineering Quality Other								
Root Cause		Date	Step	Qty	Description of work order update or Non-conformance		Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector					
Doc/Data																
Equip/Tooling																
Operator																
Material																
Setup																
Other																
Process																
Supplier																
Training																
Unapproved																
FAULT CATEGORY																
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped. <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube				General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions								<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Other				<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled

Picklist Print

January-28-13 12:41:15 PM

Page 1

Work Order ID: 96471

Parent Item: D3183-045

Start Date: 1/25/13

Required Date: 2/11/13

Parent Item Name: Bearing Assembly

Start Qty: 20.00

Required Qty: 20.00

Comments: IPP A04.02.18New issueKJ/DS

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3183-5 Bearing		Manufactured	No			110	Each	32.0000	1	20		2/13/03/28	

Location	Loc Qty	Loc Code
ST235B	32	
74851	1	
77831	1	
81506	19	
89617	1	
92224	10	

MDELRRINR1.000 Delrin Round Bar 1"	Purchased	No		130	f	23.8908	0.0333	4.000	0.701052		2/13-03-18
---------------------------------------	-----------	----	--	-----	---	---------	--------	-------	----------	--	------------

Location	Loc Qty	Loc Code
MAT018	23.8908	
117985	0.814	
118392	12.5524	
122582	10.5244	

124942

4.000

NCR: Yes / No

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order: _____			DISPOSITION			AGAINST DEPARTMENT/PROCESS					
Part No. _____			Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/>	Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/>	Water Jet <input type="checkbox"/> Prod. Eng. Coor. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/>	Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/>				
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data											
Equip/Tooling											
Operator											
Material											
Setup											
Other											
Process											
Supplier											
Training											
Unapproved											
FAULT CATEGORY											
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped. <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube				General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions						<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge	<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled

DART AEROSPACE LTD	Work Order:	96471
Description: Cap	Part Number:	D3183-9
Inspection Dwg: D3183	Rev: C1	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

X First Article Prototype

Measured by:	<i>SS</i>	Audited by:	<i>SP</i>	Prototype Approval:	N/A
Date:	13-03-18	Date:	<i>15-03-18</i>	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	04.04.20	New Issue (P/O D3183-045)	KJ/RF	
B	06.03.09	Dimension Ø0.830 was Ø0.850	KJ/JLM	<i>[Signature]</i>

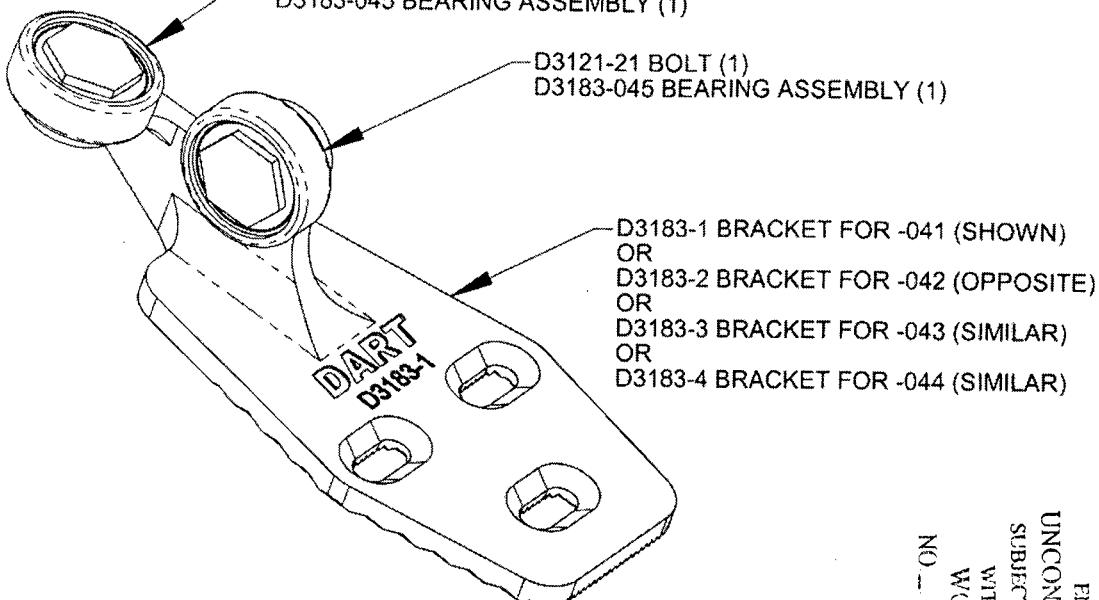


COPY
DATE
2017

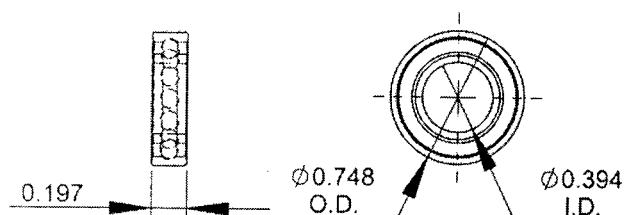
DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO.	REV. C SHEET 1 OF 4
DATE	04.02.17	TITLE	SCALE 1:1

RELEASED
04.03.01 C1

DEO ATTACHED



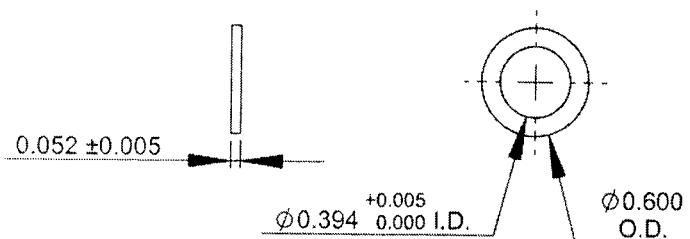
D3183-041 BRACKET ASSEMBLY (SHOWN)
D3183-042 BRACKET ASSEMBLY (OPPOSITE)
D3183-043 BRACKET ASSEMBLY (SIMILAR)
D3183-044 BRACKET ASSEMBLY (SIMILAR)



D3183-5 BEARING: SPECIFICATION CONTROL DRAWING

- 1) SINGLE ROW, DEEP GROOVE, CONRAD TYPE, SHIELDED
- 2) POSSIBLE SUPPLIER: NSK P/N 6800ZZ
- 3) ALL DIMENSIONS ARE IN INCHES

UNCONTR.
SUBJECT
WITH
NO - 96471 M5
13-01-29



D3183-7 WASHER

- 1) MATERIAL: AISI 303 ROUND BAR (M303R) ANNEALED
- 2) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES

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96471

MAY

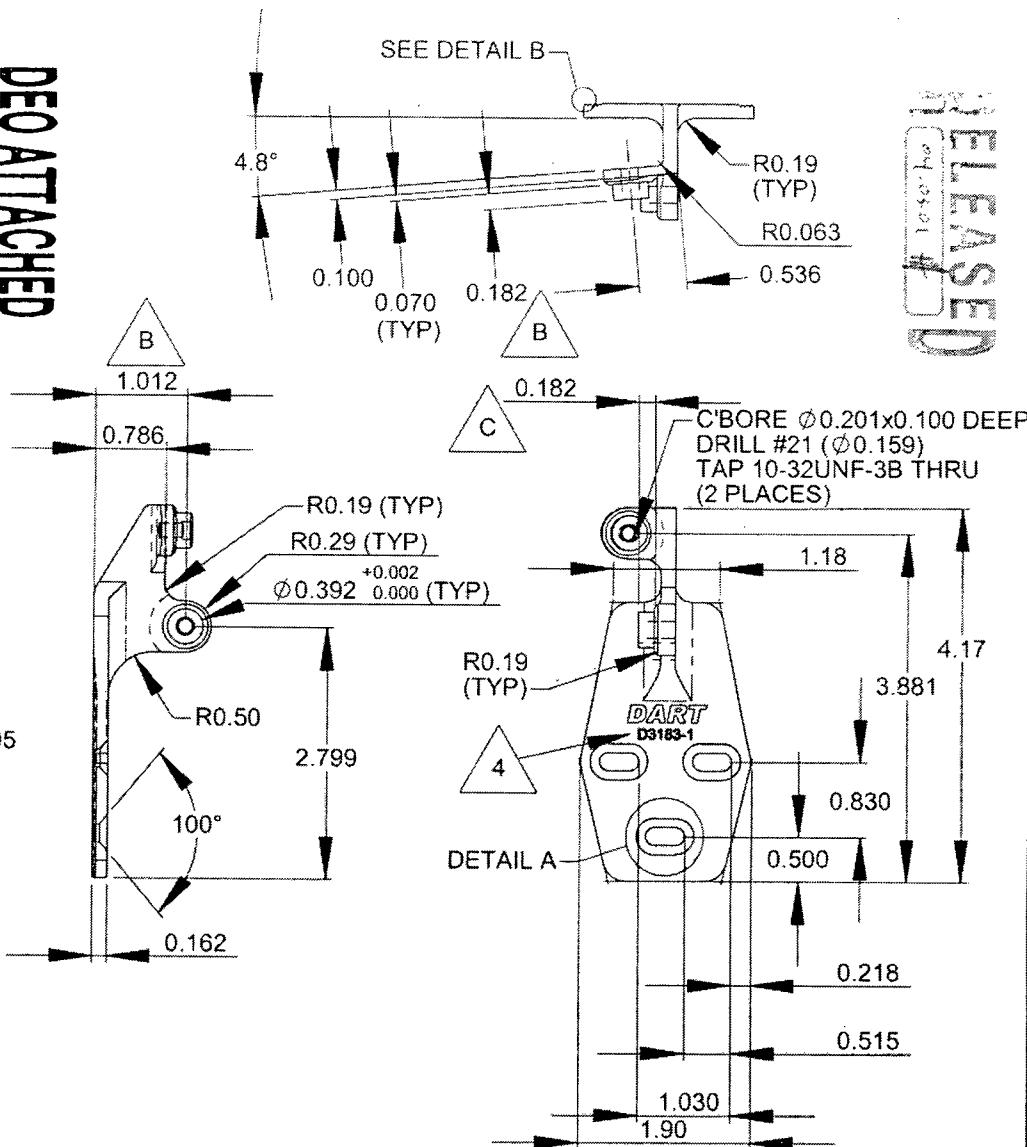
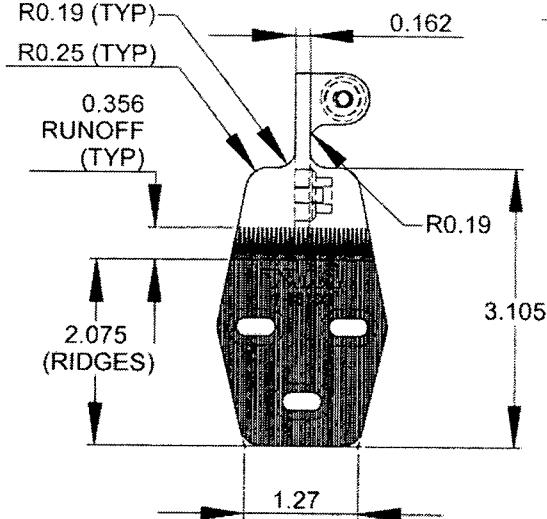
DART AEROSPACE LTD	
HAWKESBURY, ONTARIO, CANADA	
DESIGN	DRAWN BY
CHECKED	APPROVED
DATE	TITLE
04.02.17	BRACKET ASSEMBLY
DRAWING NO.	
D3183	
SHEET 2 OF 4	
REV. C	
SCALE	
1:2	

1040-160

100-2301

DETAILED

DEO ATTACHED



D3183-1 BRACKET SHOWN
D3183-2 BRACKET OPPOSITE

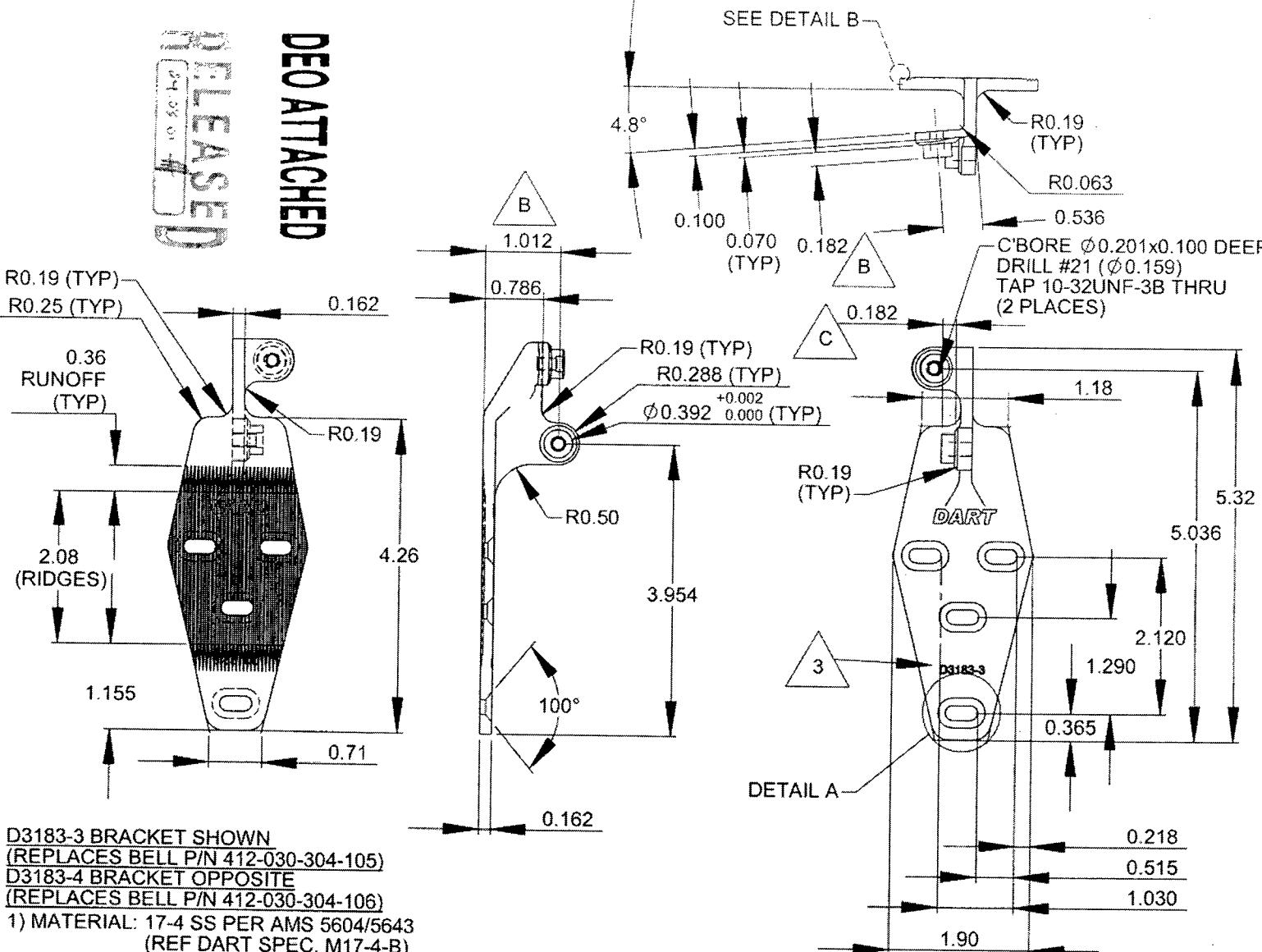
1) D3183-1 CAN BE MADE FROM D3183-3
D3183-2 CAN BE MADE FROM D3183-4
2) MATERIAL: 17-4 SS PER AMS 5604/5643
(REF DART SPEC. M17-4-B)
MIN ULTIMATE STRENGTH = 150 ksi
MIN YIELD STRENGTH = 100 ksi
3) BREAK ALL SHARP EDGES 0.005 TO 0.015
4) ENGRAVE DART P/N & LOGO AS SHOWN
5) TOLERANCES ARE PER DART QSI 018 UNLESS
OTHERWISE NOTED
6) ALL DIMENSIONS ARE IN INCHES

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96471

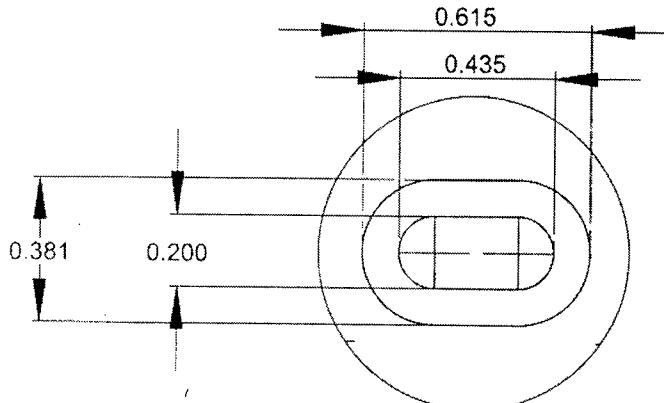


DESIGN	DRAWN BY	DART AEROSPACE LTD	
REVISION	HAWKESBURY, ONTARIO, CANADA		REV. C
CHECKED	APPROVED	DRAWING NO. D3183	
DATE	04.02.17	TITLE	BRACKET ASSEMBLY
		SHEET	3 OF 4
		SCALE	1:2





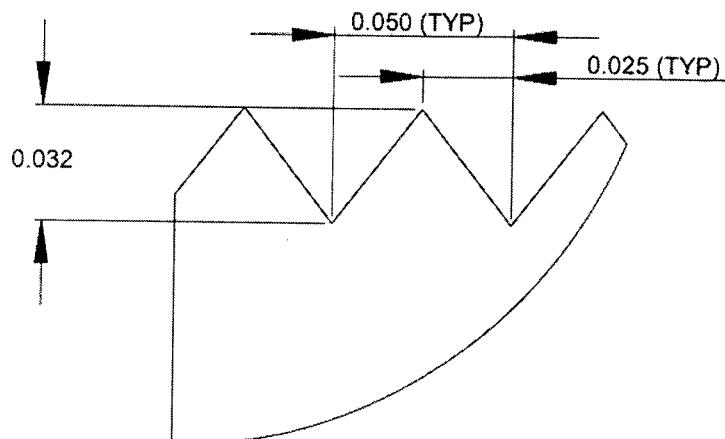
DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
CHECKED	APPROVED	DRAWING NO. D3183
DATE	04.02.17	REV. C SHEET 4 OF 4 TITLE SCALE 1:1 BRACKET ASSEMBLY



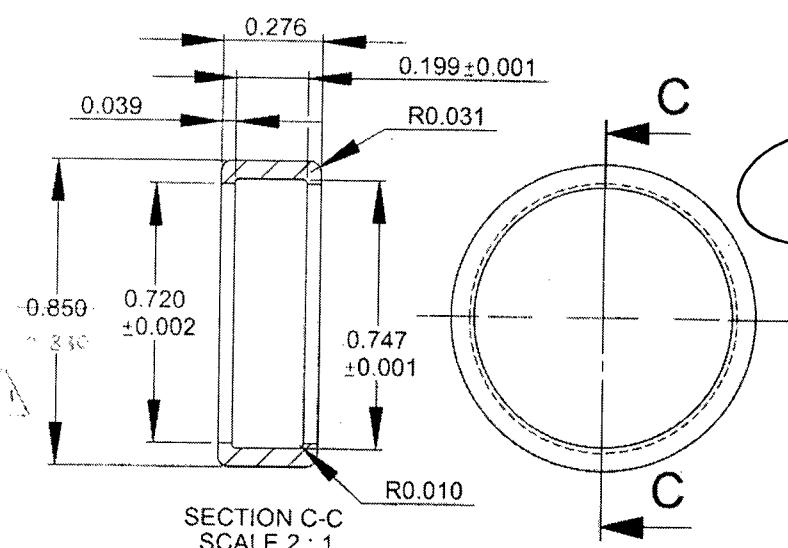
DETAIL A (2 : 1)

RELEASED
04-03-01

DEO ATTACHED



DETAIL B (20 : 1)



D3183-9 CAP

- 1) MATERIAL: DELRIN ROD, Ø1.00
(REF DART SPEC. M-DELRIN-R1.00)
- 2) TOLERANCES ARE PER DART QSI 018
UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES

D3183-045 BEARING ASSEMBLY

- 1) ASSEMBLE D3183-5 BEARING AND
D3183-9 CAP

1/10/06

96471

DRAWING NO. D3183	TITLE BRACKET ASSEMBLY	REV.C1	DART AEROSPACE LTD ENGINEERING ORDER	D.E.O. NO. D3183-C1-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>gp</i>	CHECKED <i>ls</i>		MFG. APPR. <i>AS</i>	APPROVED <i>MP</i>	DE APPR. <i>MP</i>	
DATE 10.05.14	DATE 10.06.30		DATE 10.06.30	DATE 10/06/30	DATE 10/06/30	

D3183-5 BEARING

ADD POSSIBLE SUPPLIER: KML P/N 6800-ZZ

BASIC LOAD RATING REQUIREMENT: Cr = 1720 N (386 lb) MIN [DYNAMIC]
Cor = 840 N (188 lb) MIN [STATIC]

REF PAR 10-012

RELEASED
2010-07-22
MP